

## **INDOOR AIR RADON MONITORING IN THE MAILY-SUU TOWN**

O.S.Rustembekov<sup>1</sup>, A.A. Sharshenova<sup>1</sup>, T.A.Sadykbekov<sup>1</sup>, A.Makela<sup>2</sup>

<sup>1</sup>*Department of Ecology and Nature Management, Ministry of Environment and Emergency Situation of the Kyrgyz Republic, 131 Isanov Str., Bishkek 720033, Kyrgyz Republic, e-mail: ecomon@intranet.kg*

<sup>2</sup>*Finnish Environmental Institute (SYKE)*

It is established that the major part (60-90%) of the radiation dose to the population of the Earth is contributed by natural radiation sources which are comprised of cosmic radiation and natural radionuclides, the radioactive gas radon being among the latter. According to the estimate of experts of the International Commission for Radiation Protection up to 20% of all lung cancer cases can be attributed to exposure to radon and its daughter decay products (second to smoking causing about 70% of cases).

The Technical Assistance Project TA 3499-KGZ of the Asian Development Bank “Environmental Monitoring and Management Capacity Building (Phase II)” was conducted by the consulting company Chemonics International (USA) and the Finnish Environmental Institute. Under the project radon levels in the air of dwelling houses were investigated in Maily-Suu town, Jalalabad oblast, and its vicinity.

Radon detectors were placed for 3 months (October 2001 – January 2002) in 3 localities: the town Maily-Suu and the villages of Sary-Bee and Yuzhny Karagach. All 34 detectors were mounted in 34 dwelling houses including additional control radon detectors in 6 houses. Determination of radon levels was carried out by the RSSI (Radon Laboratory Returns) in USA.

The studies revealed maximum radon levels in the villages Yuzhny Karagach and Sary-Bee where some houses are located near and in waste-dumping sites. Average radon levels exceeded the radiation safety norms by 2.5-2.8 times (Hygienic Norms - 200 Bq/m<sup>3</sup>). It should be mentioned that the RSSI could not make determination for one radon-capture device from v. Yuzhny Karagach because of high radon concentration. In 28 dwelling houses (82%) radon levels exceeded 200 Bq/m<sup>3</sup>.

Within the framework of the project, oblast-level and national measures to reduce indoor air radon levels were developed. The results of radon studies were transferred to the ministries of Environment and Emergency Situation, of Health, the Jalalabad oblast Departments of Environmental Protection, the Maily-Suu Centre of State Sanitary-Epidemiological Control. On the basis of results of the TA 3499-KGZ Project the Ministry of Health issued Order No. 321 of 31 July 2002 “On organization of medical examination of the population in the Maily-Suu town and its environs” and then special medical check-ups of the population were carried out.